

FIG. 1

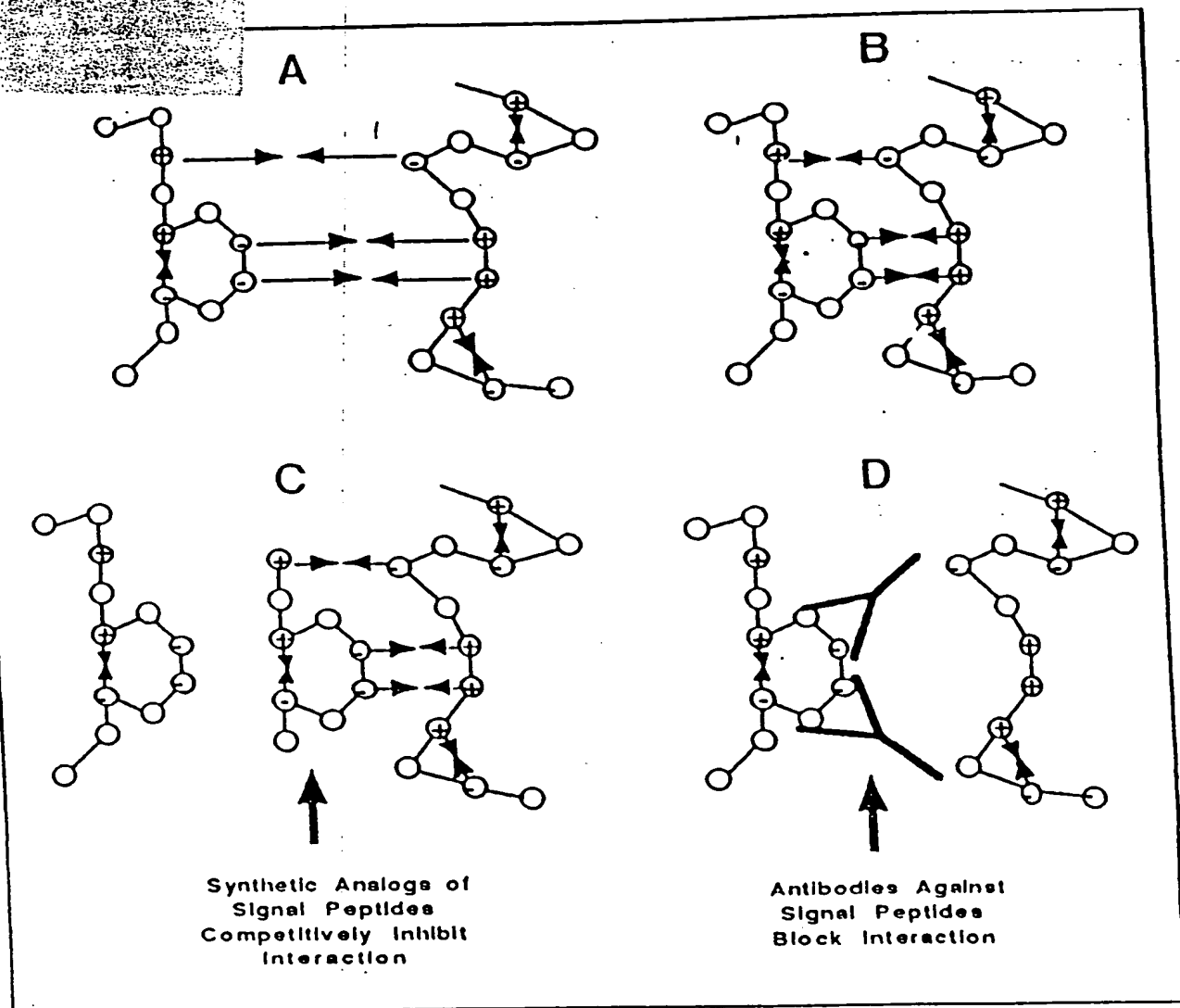


FIG. 2

Glucagon Signal Sequences And Therapeutic Use In Direct And Indirect Peptide Interception Therapy



Direct And Indirect Peptide Interception Therapy in Diabetes

- Decrease Effect of Glucagon
- Increase Relative Effect of Insulin

1. Antibodies Against Glucagon Vaccine
(Synthetic Signal Oligopeptide)
Decrease Action of Glucagon

2. Synthetic Analogs to Glucagon
Signal Oligopeptides Competitively
Inhibit Action of Glucagon

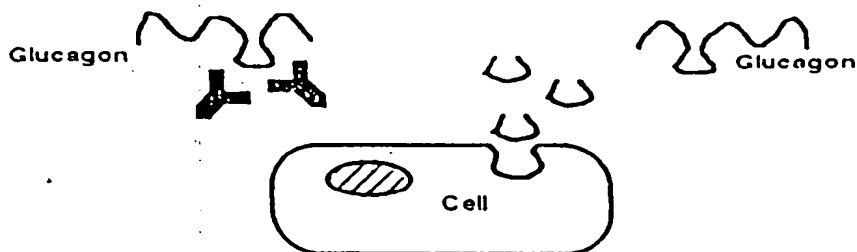


FIG. 3

Direct Peptide Interception Therapy (Direct PIT)

Methods For Identification, Design, Development and Therapeutic Use of Synthetic
Analogues to Signal Oligopeptides in Peptide Interception Therapy
as Competitive Inhibitors Decreasing or Blocking Selected Protein Action

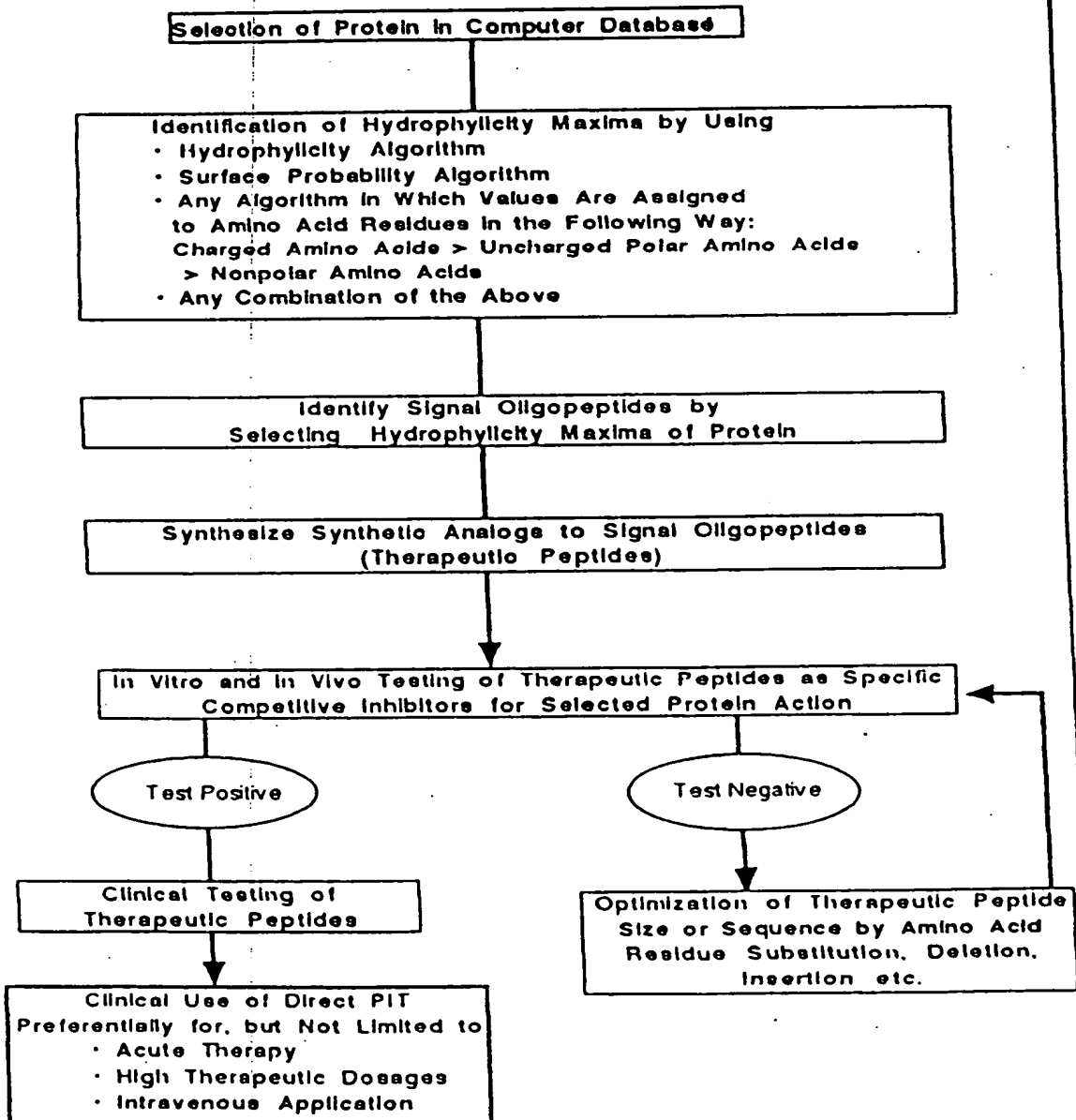
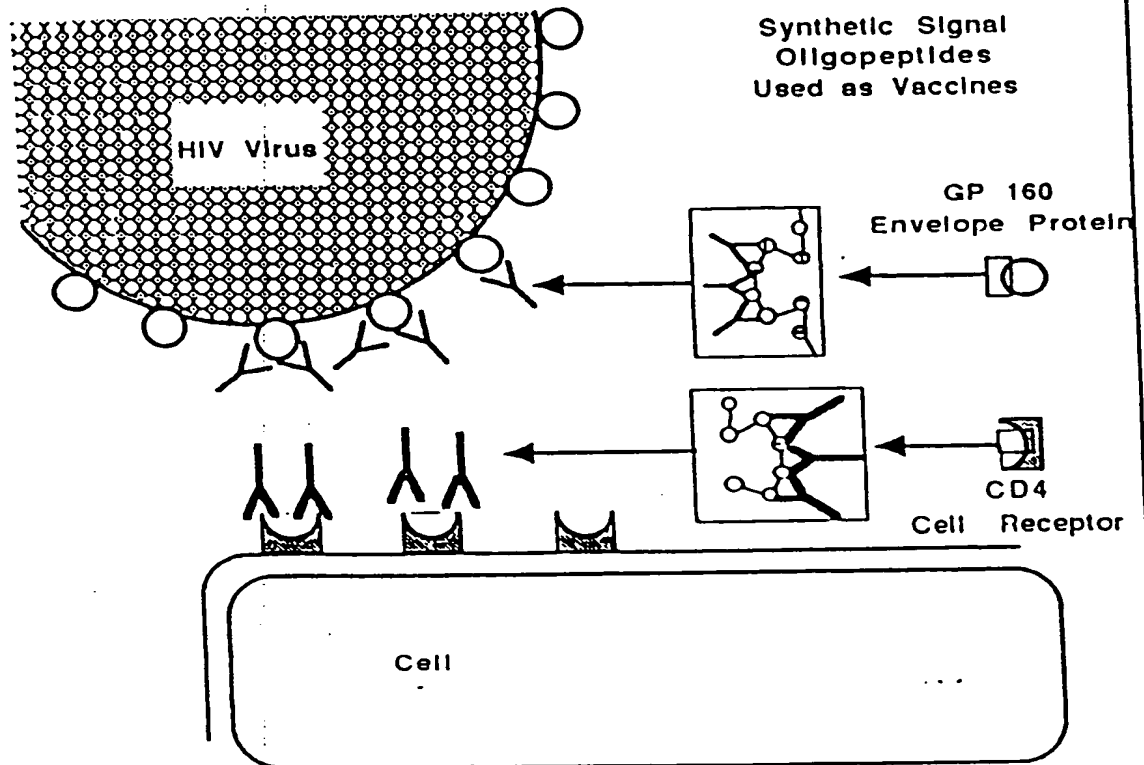


FIG. 4

Peptide Interception Therapy
in the Prevention And Treatment
of HIV Infections



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Fig 5

Indirect Peptide Interception Therapy (Indirect PIT)

Methods for Identification, Design, Development and Therapeutic Use of Synthetic Analogs to Signal Oligopeptides in Peptide Interception Therapy as Vaccines to Stimulate a Specific Immune Response Which Decreases or Blocks Selected Protein Action

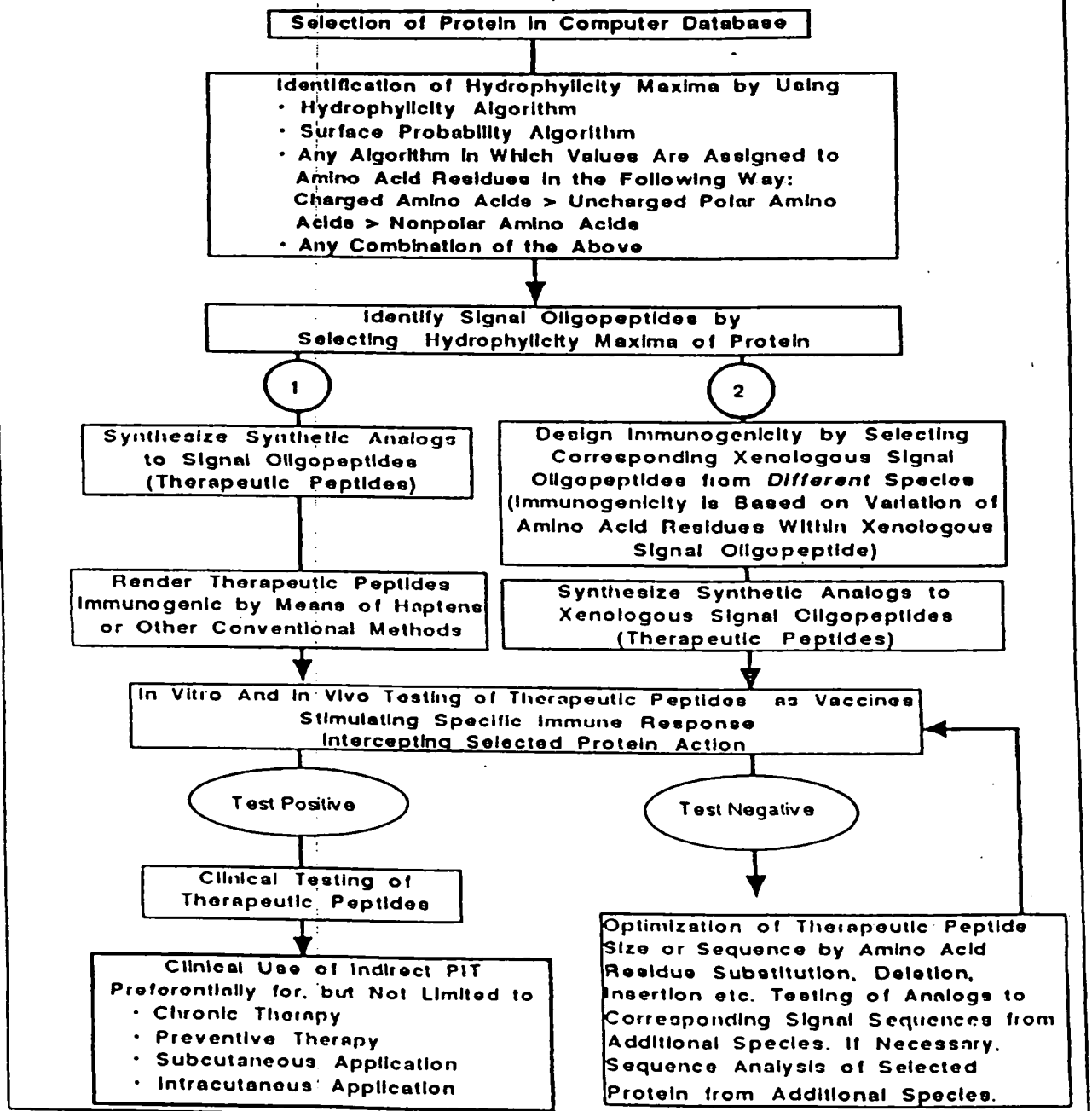


FIG. 6

Peptide Regulation Therapy (PRT)

Methods For Identification, Design, Development and Therapeutic Use of Synthetic Analogs to Signal Oligopeptides in Peptide Regulation Therapy as Negative Feed-Back Regulators for the Synthesis Rate of Selected Proteins

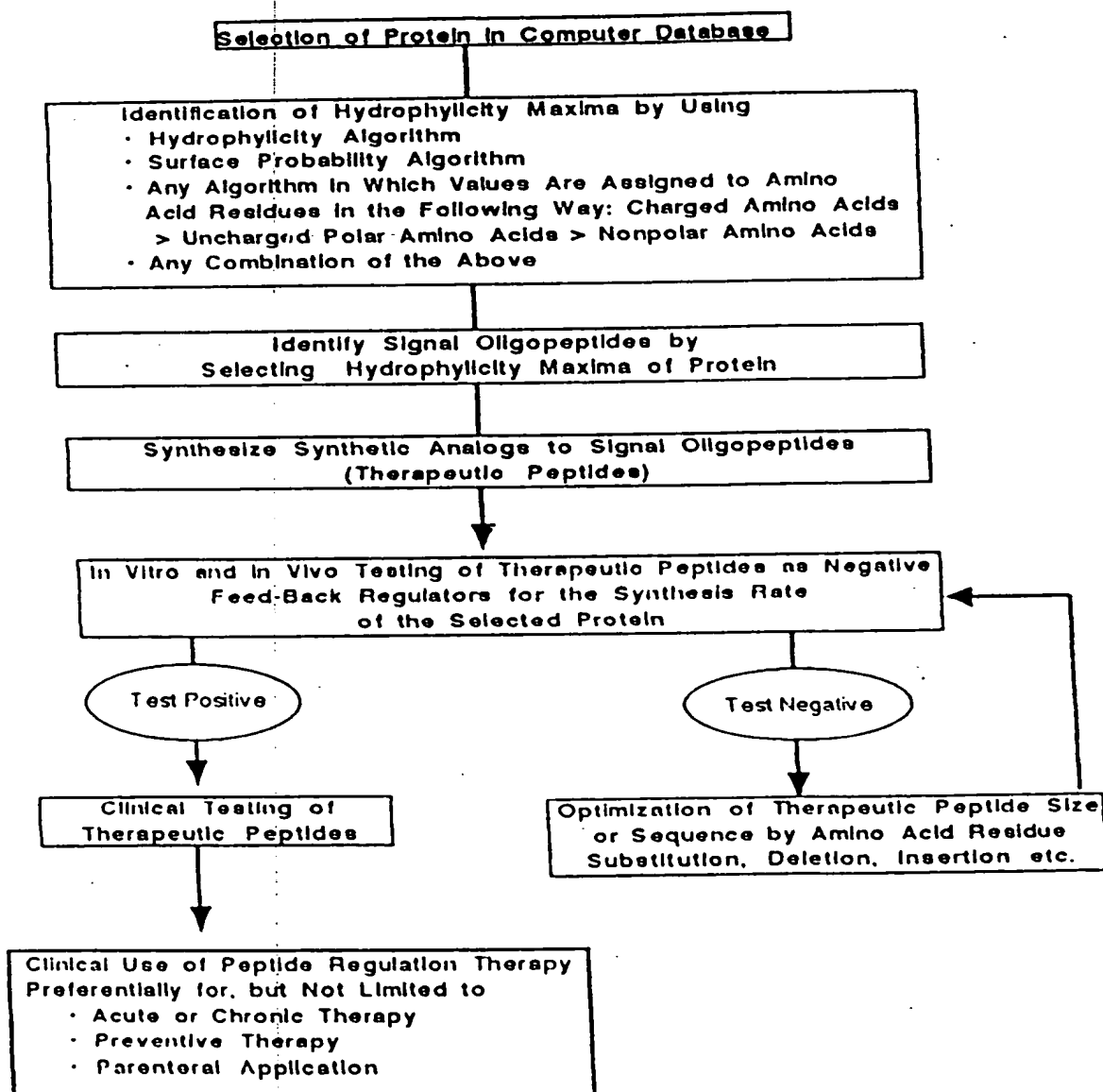
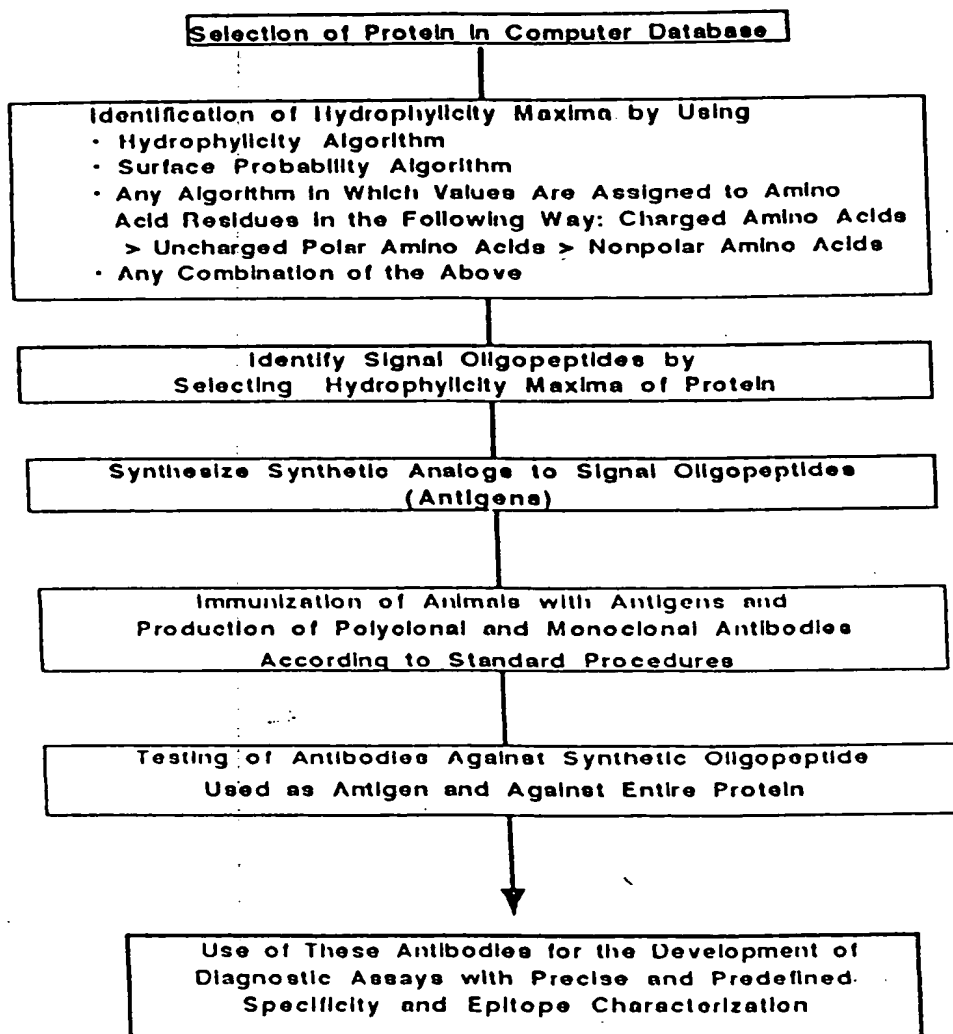


FIG. 7

Signal Oligopeptides as Antigens for the Development of Highly Specific and Precisely Characterized In Vitro Diagnostic Assays

Methods For Identification, Design, Development and Use of Synthetic Analogs to Signal Oligopeptides as Antigens for the Production of Specific Antibodies with Precise Predefined Binding Characteristics



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ELECTRIC

Exemplified for the the Development of Glucagon Vaccines for Indirect Peptide Interception Therapy of Diabetes Mellitus

Sex	Age Group	Number of Persons (Thousands)
Male	15-19	~4,000
	20-24	~8,000
	25-29	~4,000
	30-34	~2,000
	35-39	~1,000
	40-44	~1,000
	45-49	~1,000
	50-54	~1,000
	55-59	~1,000
	60-64	~1,000
	65-69	~1,000
	70-74	~1,000
	75-79	~1,000
	80-84	~1,000
	85-89	~1,000
Female	15-19	~1,000
	20-24	~2,000
	25-29	~1,000
	30-34	~1,000
	35-39	~1,000
	40-44	~1,000
	45-49	~1,000
	50-54	~1,000
	55-59	~1,000
	60-64	~1,000
	65-69	~4,000
	70-74	~2,000
	75-79	~1,000
	80-84	~1,000
	85-89	~1,000

[illegible][illegible]

1. Moderate Therapeutic Immune Response
Desired: Design of Therapeutic Peptides Analogous to Signal Sequences From Species Genetically Close to Humans (e.g. Mammals)
 -> Amino Acid Residue Variation Within Therapeutic Peptide (Vaccine) Must Be Sufficient to Cause Immune Response
 -> Therapeutic Use of Immune Response

2. Strong Therapeutic Immune Response
Desired: Design of Therapeutic Peptides Analogous to Signal Sequences From Species Genetically More Distant to Humans (e.g. Fish, Yeast)
 -> More Amino Acid Residue Variation Within Signal Sequence
 -> Greater Antigenicity of Therap. Peptide
 -> Higher Therapeutic Efficiency